THESE RECORDS MAY BE RELEASABLE UNDER THE FOIA REQUEST 15 DAYS AFTER SIGNATURE DATE UNLESS WE HEAR OTHERWISE FROM FAA NTSB COUNSEL



Federal Aviation
Administration

Mike Monroney Aeronautical Center P.O. Box 25082 Oklahoma City, Oklahoma 73125

Friday, October 24, 2014

National Transportation Safety Board 45065 Riverside Parkway Ashburn, VA 20147

ACCIDENT # 0174 INDIVIDUAL#: 002 NAME: BORLAND, GRAHAM N. MODE: AVIATION

DATE OF ACCIDENT 08/14/2014 DATE RECEIVED 08/19/2014 PUTREFACTION: No

N# 66241 **NTSB#** ERA14FA387 **CAMI REF#** 201400174002

LOCATION OF ACCIDENT Mount Pleasant, SC

SPECIMENS Bile, Blood (Heart), Brain, Gastric, Heart, Kidney, Liver, Lung, Muscle, Spleen, Urine, Vitreous

FINAL FORENSIC TOXICOLOGY FATAL ACCIDENT REPORT

CARBON MONOXIDE: The carboxyhemoglobin (COHb) saturation is determined by spectrophotometry with a 10% cut off and confirmed by chromatography.

>> NOT PERFORMED

-Notes:

Insufficient specimen for analysis.

CYANIDE: The presence of cyanide is screened by Conway Diffusion, when the COHb level is equal to or greater than 10% or upon special request. Cyanides are quantitated by spectrophotometry and confirmed by chromatography. The reporting cutoff for cyanide is 0.25 ug/mL. Normal blood cyanide concentrations are less than 0.15 ug/mL, while lethal concentrations are greater than 3 ug/mL.

>> NOT PERFORMED

VOLATILES: The volatile concentrations are determined by headspace gas chromatography at a cut off of 10 mg/dL. Where possible, positive ethanol values are confirmed by Radiative Energy Attenuation.

>> NO ETHANOL detected in Urine

DRUGS: Specimens are analyzed using immunoassay, chromatography, GC/MS, HPLC/MS, or GC/FTIR. Concentrations (ug/mL) at or above those in () can be determined for, but not limited to, the following drugs: amphetamines (0.010), opiates (0.010), marihuana (0.001), cocaine (0.020), phencyclidine (0.002), benzodiazepines (0.030), barbiturates (0.060), antidepressants (0.100), and antihistamines (0.020). Drugs and/or their metabolites, that are not impairing or abused, may be reported from the initial tests. See the CAMI Drug Information Web Site for additional information (http://jag.cami.jccbi.gov/toxicology/).

- >> Dihydrocodeine NOT detected in Blood (Heart)
- >> Dihydrocodeine detected in Urine
- >> Hydrocodone NOT detected in Blood (Heart)
- >> Hydrocodone detected in Urine
- >> Hydromorphone NOT detected in Blood (Heart)
- >> Hydromorphone detected in Urine
- >> Norcyclobenzaprine detected in Blood (Heart)
- >> Norcyclobenzaprine detected in Urine
- >> O-Desmethyltramadol detected in Urine

CONTINUATION OF REF#: 201400174002 - BORLAND, GRAHAM N.

- >> 0.593 (ug/mL, ug/g) O-Desmethyltramadol detected in Blood (Heart)
- >> 10.76 (ug/mL, ug/g) Tramadol detected in Blood (Heart)
- >> 11.571 (ug/mL, ug/g) Tramadol detected in Vitreous >> 13.794 (ug/mL, ug/g) Tramadol detected in Muscle >> 18.424 (ug/mL, ug/g) Tramadol detected in Brain

- >> 38.93 (ug/mL, ug/g) Tramadol detected in Liver
- >> 351.645 (ug/mL, ug/g) Tramadol detected in Urine

Russell Lewis, Ph.D. TC, FAA, Forensic Toxicology Research Team CAMI